Health Care for the Homeless

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Bibliography #18

Treatment Compliance Among Homeless People

November 2001

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Under contract to the Health Resources and Services Administration, Bureau of Primary Health Care

2001

Bangsberg DR, Hecht FM, Clague H, Charlebois ED, Ciccarone D, Chesney M, Moss A. **Provider assessment of adherence to HIV antiretroviral therapy.** J Acquir Immune Defic Syndr, 26(5):435-42, April 15, 2001.

BACKGROUND: Adherence assessment is an essential component of monitoring HIV antiretroviral therapy. Prior studies suggest that medical providers frequently estimate individual patient adherence inaccurately. OBJECTIVE: We compared provider estimates of nonadherence to antiretroviral therapy with unannounced pill counts and structured patient interviews to determine the accuracy of adherence information obtained by providers and patients. DESIGN, SETTING, AND PARTICIPANTS: Comparison of three adherence measures in homeless or marginally housed persons receiving HIV antiretroviral therapy (n = 45) and their providers (n = 35). MEASUREMENTS: Provider estimate of percentage of pills taken; three successive patient structured reports of number of doses missed in the last 3 days; and three successive unannounced pill counts. RESULTS: 13% (95% confidence interval [CI], 4%-22%) of patients were not following their regimen as directed. Provider-adherence estimate explained only 26% (95% CI, 6%-47%) of the variation in pill count adherence, whereas patient report explained 72% (95% CI, 52%-96%). The sensitivity and specificity of provider estimates of nonadherence, defined as <80% of pills taken by pill count, were 40% and 85%, respectively. The sensitivity and specificity of patient interview were 72% and 95%, respectively. CONCLUSIONS: Provider estimate of adherence was inaccurate whereas structured patient report was more closely related to pill count. Structured assessment over several short intervals may improve accuracy of adherence assessment in clinical practice.

Kushel MB, Vittinghoff E, Haas JS. **Factors associated with the health care utilization of homeless persons.** JAMA, 2285(2):200-6, Jan 2001.

CONTEXT: Homeless persons face numerous barriers to receiving health care and have high rates of illness and disability. Factors associated with health care utilization by homeless persons have not been explored from a national perspective. OBJECTIVE: To describe factors associated with use of and perceived barriers to receipt of health care among homeless persons. DESIGN AND SETTING: Secondary data analysis of the National Survey of Homeless Assistance Providers and Clients. SUBJECTS: A total of 2974 currently homeless persons interviewed through homeless assistance programs throughout the United States in October and November 1996. MAIN OUTCOME MEASURES: Self-reported use of ambulatory care services, emergency departments, and inpatient hospital services; inability to receive necessary care; and inability to comply with prescription medication in the prior year. RESULTS: Overall, 62.8% of subjects had 1 or more ambulatory care visits during the preceding year, 32.2% visited an emergency department, and 23.3% had been hospitalized. However, 24.6% reported having been unable to receive necessary medical care. Of the 1201 respondents who reported having been prescribed medication, 32.1% reported being unable to comply. After adjustment for age, sex, race/ethnicity, medical illness, mental health problems, substance abuse, and other covariates, having health insurance was associated with greater use of ambulatory care, inpatient hospitalization, and lower reporting of barriers to needed care and prescription medication compliance. Insurance was not associated with emergency department visits. CONCLUSIONS: In this nationally representative survey, homeless persons reported high levels of barriers to needed care and used acute hospital-based care at high rates. Insurance was associated with a greater use of ambulatory care and fewer reported barriers.

Provision of insurance may improve the substantial morbidity experienced by homeless persons and decrease their reliance on acute hospital-based care.

Sension MG, Farthing C, Shaffer AG, Graham E, Siemon-Hryczyk P, Pilson RS. **Challenges of antiretroviral treatment in transient and drug-using populations: the SUN study.** AIDS Patient Care, 15(3):129-36, Mar 2001.

This is an open-label, single-arm, phase 3b study (part of phase 3 development) to evaluate the efficacy and safety of Fortovase-soft gelatin formulation (saquinavir-SGC), combined with zidovudine (ZDV) and lamivudine (3TC), human immune deficiency virus type 1 in (HIV-1)-positive, antiretroviral-naive individuals. Forty-two HIV-1-positive adults with plasma HIV RNA >10,000 copies per milliliter (Roche Amplicor HIV Monitor assay) and CD4 cell count >100 cells/mm(3) were treated with SQV-SGC, 1200 mg three times per day; ZDV, 300 mg; and 3TC, 150 mg each twice per day for 48 weeks. High proportions were drug users (26%), demonstrated psychiatric disorders (alcohol abuse [14%]/depression [14%]), or were inadequately housed (5%). At 48 weeks, 50% of patients achieved viral suppression X400 copies per milliliter with 43% <20 copies per milliliter using an intent-to-treat analysis (missing values counted as virological failures). Corresponding proportions for patients remaining on therapy at 48 weeks were 91% <400 copies per milliliter and 78% <20 copies per milliliter. Most adverse events were mild. Saquinavir-SGC combined with ZDV and 3TC, achieved potent and durable HIV RNA suppression and was well tolerated over 48 weeks in an antiretroviral-naive population including high proportions of individuals considered difficult to treat, such as drug users, people with psychiatric problems and homeless individuals.

Torrey EF, Zdanowicz M. **Outpatient commitment: what, why, and for whom.** Psychiatr Serv, 52(3):337-41, Mar 2001.
The authors describe studies showing the effectiveness of involuntary outpatient commitment in improving treatment compliance, reducing hospital readmission, and reducing episodes of violence among persons with severe psychiatric illnesses. They point out that because of its role in enhancing compliance with treatment, outpatient commitment can be regarded as a form of assisted treatment, such as assertive case management, representative payeeship, and mental health courts. The authors argue that such assisted treatment is necessary for persons with severe psychiatric illnesses who are noncompliant with their medication regimens because many lack awareness of their illnesses because of biologically based cognitive deficits. They recommend outpatient commitment for any individual with a severe psychiatric disorder who has impaired awareness of his or her illness and is at risk of becoming homeless, incarcerated, or violent or of committing suicide, and they provide case examples. The authors conclude by addressing eight of the most common objections to outpatient commitment by mental health professionals and civil liberties groups that oppose outpatient commitment.

1999

Alvidrez J. **Ethnic variations in mental health attitudes and service use among low-income African American, Latina, and European American young women.** Community Mental Health Journal 35(6): 515-529, 1999.

This article examines the predictors of mental health service use among patients in an ethnically diverse public-care women's clinic. While waiting for their clinic appointments, 187 Latina, African American and White women were interviewed about their attitudes towards mental illness and mental health services. White women were much more likely to have made a mental health visit in the past than the ethnic minority women. Having a substance use problem, use of mental health services by family or friends, and beliefs about causes of mental illness were all predictors or making a mental health visit.

Bock NN; Metzger BS; Tapia JR; Blumberg HM. **A tuberculin screening and isoniazid preventive therapy program in an inner-city population.** Am J Respir Crit Care Med, 159(1):295-300, January 1999.

As tuberculosis transmission decreases, case rates decline and an increasing proportion of cases arises from the pool of persons with latent infection. Elimination of tuberculosis will require preventing disease from developing in infected persons. From 1994 to 1996 the Atlanta TB Prevention Coalition conducted a community-based tuberculin screening and isoniazid preventive therapy project among high-risk inner-city residents of Atlanta, Georgia. We established screening centers in outpatient waiting areas of the public hospital serving inner-city residents, the city jail, clinics serving the homeless, and with outreach teams in neighborhoods frequented by drug users. All services were provided free. A total of 7,246 persons participated in tuberculin testing; 4,701 (65%) adhered with skin test reading, 809 (17%) had a positive test, 409 (50%) fit current guidelines for isoniazid preventive therapy, 84 (20%) we intended to treat completed therapy. The major limitations of this community-based tuberculin screening and preventive therapy project were the low proportion of infected individuals who were eligible for isoniazid preventive therapy and the poor adherence with a complete regimen among those we intended to treat. For community-based programs to be efficacious, preventive therapy regimens that are of shorter duration and safe for older persons will need to be implemented.

1998

Lash SJ. **Increasing participation in substance abuse aftercare treatment**. Am J Drug Alcohol Abuse, 24(1):31-36, February 1998.

Increasing the length of participation in alcohol and drug treatment is associated with improved outcomes (1). The present study was designed to increase substance abuse aftercare participation following completion of inpatient treatment. We compared the effect of a 20-minute aftercare orientation session to a minimal treatment condition on aftercare group therapy participation. The orientation session was conducted by an aftercare group therapist, who met with the participant to encourage him to attend aftercare, to explain why aftercare is helpful, and to have him sign an aftercare participation contract. Participants in the minimal treatment condition watched a videotape on motivation to reach goals.

Participants were 40 males in an inpatient substance abuse treatment program at a Veterans Affairs Medical Center (VAMC). Ninety percent were alcohol dependent; 35% were cocaine dependent; 10% were marijuana dependent; and 10% were polysubstance dependent. Participants who received the aftercare orientation were more likely to attend aftercare (70%) than those who received the minimal treatment (40%). Additionally, the former group attended more sessions (x=3.0) than those who were not oriented to aftercare (x=1.4). The utility and limitations of a brief orientation session on aftercare adherence are discussed.

Malotte C K; Rhodes F; and Mais K. **Tuberculosis screening and compliance with return for skin test reading among active drug users.** Am J of Public Health, 88(5): 792-796, May 1998.

OBJECTIVES: This study assessed the independent and combined effects of different levels of monetary incentives and a theory-based educational intervention on return for tuberculosis (TB) skin test reading in a sample of active injection drug and crack cocaine users. Prevalence of TB infection in this sample was also determined. METHODS: Active or recent drug users (n=1004), recruited via street outreach techniques, were skin tested for TB. They were randomly assigned to one of two levels of monetary incentive ($5 and $10) provided at return for skin test reading, alone or in combination with a brief motivational educational session. RESULTS: More that 90% of those who received $10 returned for skin test reading, in comparison with 85% of those who received $5 and 33% of those who received no monetary incentive. The education session had no impact on return for skin test reading. The prevalence of a positive tuberculin test was 18.3%. CONCLUSIONS: Monetary incentives dramatically increase the return rate for TB skin test reading among drug users who are at high risk of TB infection.

Malow R; McPherson S; Klimas N; et al. **Adherence to complex combination antiretroviral therapies by HIV-positive drug abusers.** Psychiatric Services, 49(8): 1021-2, August 1998.

An important current issue in the efficacy of the new combination antiretroviral therapies for treating HIV-positive individuals is the ability of recovering drug abusers who are IV-positive and living in poverty to adhere to these new complex and demanding regimens. Less than excellent adherence can have serious consequences, not only for the individual but for the community as well, due to the transmission of drug-resistant HIV by nonadherent persons and the increased virulence of the mutated strains. This article reviews two preliminary adherence studies, conducted in 1997: (1) designed to understand barriers to adherence and (2) examined the effects of a brief intervention to enhance adherence. These studies may guide efforts to develop a brief intervention to enhance adherence to combination antiretrovirral therapies among predominantly poor drug-abusing men.

1997

Buchanan R. **Compliance with tuberculosis drug regimens: incentives and enablers offered by public health departments.** Am J Public Health, 87(12): 2014-7, December 1997.

OBJECTIVES: This research examined incentives implemented by public health departments to encourage tuberculosis (TB) patients to comply with TB drug regimens. METHODS: A questionnaire addressing incentives was mailed to the directors of each state's health department during May 1995. All

50 states and the District of Columbia returned questionnaires. RESULTS: The survey results indicate that public health departments in almost all states are implementing the incentives advocated by TB experts. CONCLUSIONS: The implementation of these incentives may help to explain why the incidence of TB resumed its long-term decline in the U. S. during 1993 after a decade of resurgence.

Dixon L; Weiden P; Torres M; Lehman A. **Assertive community treatment and medication compliance in the homeless mentally ill.** American Journal of Psychiatry 154(9): 1302-1304, 1997.

This article describes a study that examined medication compliance rates among a group of homeless mentally ill subjects who received assertive community treatment. Medication compliance of 77 homeless persons referred to an assertive community treatment program was evaluated at baseline and quarterly for one year. Results indicated that 29% of the cohort was compliant at entry into the program. Compliance increased after three months to 57% and remained high throughout the year. Medication compliance was also found to be associated with fewer psychiatric symptoms but not with better housing placements or fewer days in the hospital. The authors conclude the results of this study to suggest that assertive community treatment intervention rapidly improves medication compliance rates among homeless persons.

Lyons C. **HIV drug adherence: special situations.** J Assoc Nurses AIDS Care, 8 Suppl:29-36, 1997.

Among the highly diverse population of persons living with HIV/AIDS are individuals with particularly challenging life circumstances that can be called "special situations." Substance abuse and homelessness are examples of special situations that require additional consideration when attempting to determine the appropriateness of prescribing complex antiretroviral regimens. When individual cases are examined in the context of relevant models of care and the principles of those models applied, such clinical decisions can be made with the patient. Withholding protease inhibitors from an entire population group, it is argued, is the epitome of practicing bad medicine.

Mangura BT; Passannante MR; Reichman LB. **An incentive in tuberculosis preventive therapy for an inner city population.** Int J Tuberc Lung Dis, 1(6):576-578, December 1997.

SETTING: Measures known to improve adherence such as short course chemoprophylaxis and directly observed therapy can be enhanced to a significant extent/by the use of incentives. Adherence to tuberculosis therapy is influenced by several factors, including the health care system, complexity of therapeutic regimens and patient's characteristics. Individual factors that negatively influence patient's adherence are the most difficult to counter. Preventive tuberculosis therapy is doubly challenging because the benefit of treatment is not felt, while toxicity from the medication, when it occurs, is experienced immediately. Ingenious incentives therefore have to make it worth the patient's while. During a study on preventive regimens, a request for an incentive, Sustacal, was observed to help completion of preventive regimens. Components of individual TB programs may help in patient adherence; it is important for health care staff to identify these aspects and, if they are successful, utilize these as an incentive to complete treatment.

Nageotte C; Sullivan G; Duan N; Camp PL. **Medication compliance among the seriously mentally ill in a public mental health system.** Social Psychiatry and Psychiatric Epidemiology, 32(2):49-56, 1997.

The authors explain that medication non-compliance, a pervasive problem among persons with serious mental illness, has been linked to increased inpatient resources use in public mental health systems. The

objective of this analysis was to determine which factors are associated with medication compliance in this population so that more appropriate screening and intervention programs can be designed. Using knowledge gained from clinical research on compliance in schizophrenia and research testing the Health Belief Model as a conceptual framework in studying compliance behavior, the authors conducted a secondary analysis of data collected in the Mississippi public mental health system in 1988. The study objects were patients who have schizophrenia (n=202), the majority of whom were low-income African-American males. Results show receipt of consistent outpatient mental health treatment and belief that one had a mental illness were significantly associated with higher levels of medication compliance in this population. Results suggest that screening programs to identify those at highest risk for non-compliance might be more productive if they included a review of inpatient and outpatient mental health service utilization patterns, in addition to formal assessment of patients' attitudes and beliefs about their illness.

Pablos-Mendez A; Knirsch CA; Barr RG; Lerner BH; Frieden TR. **Nonadherence in tuberculosis treatment: predictors and consequences in New York City.** Am J Med, 102(2):164-170, February 1997.

BACKGROUND: Poor adherence to antituberculosis treatment is the most important obstacle to tuberculosis (TB)control. PURPOSE: To identify and analyze predictors and consequences of nonadherence to antituberculosis treatment. PATIENTS AND METHODS: Retrospective study of a citywide cohort of 184 patients with TB in New York City, newly diagnosed by culture in April 1991-before the strengthening of its control program-and followed up through 1994. Follow-up information was collected through the New York City TB registry. Nonadherence was defined as treatment default for at least two months. RESULTS: Eighty-eight of the 184 (48%) patients were nonadherent. Greater nonadherence was noted among blacks, injection drug users, homeless, alcoholics, and HIV-infected patients; also, census-derived estimates of household income were lower among nonadherent patients. Only injection drug use and homelessness predicted nonadherence, yet 46 (39%) of 117 patients who were neither homeless nor drug users were nonadherent. Nonadherent patients took longer to convert to negative culture (254 vs. 64 days), were more likely to acquire drug resistance, required longer treatment regimens (560 vs. 324 days), and were less likely to complete treatment. There was no association between treatment adherence and all-cause mortality. CONCLUSIONS: In the absence of public health intervention, half the patients defaulted treatment for two months or longer. Although common among the homeless and injection drug users, the problem occurred frequently and unpredictably in other patients. Nonadherence may contribute to the spread of TB and the emergence of drug resistance, and may increase the cost of treatment. These data lend support to directly observed therapy in TB.

Porat H; Marshall G; Howell W. **The career beliefs of homeless veterans: vocational attitudes as indicators of employability**. Journal of Career Assessment 5(1): 47-59, 1997.

This article analyzes homeless veterans' attitudes toward employment. Using the Career Beliefs Inventory (CBI) the vocational attitudes of 279 homeless veterans were compared to those of two control groups: one employed (n=390), and the other unemployed (n=67). Even though the three groups had significant demographic, medical, and social differences, there were remarkable similarities in how they viewed employment, including having a high interest in achieving and improving their socioeconomic conditions; desire to excel over others within the workplace; interest in learning new job skills; and believing that obstacles can be overcome, undermining the common notion that homeless veterans are unwilling to take active, positive steps to improve their employability.

Satel S; Reuter P; Hartley D; Rosenheck R; Mintz J. **Influence of retroactive disability payments on recipients' compliance with substance abuse.** Psychiatric Services 48(6): 796-799, 1997.

This article examines whether substance abusers who received large retroactive payments from Social Security disability programs were more likely to terminate residential treatment precipitously than those who did not receive payments. The records of 43 patients of a long-term residential treatment facility who received disability payments at some point during their treatment stay were blindly examined. Twenty-six of these patients received a large one-time retroactive payment representing money that accumulated during processing of the claims. To test the hypothesis that receipt of such a payment would lead to abrupt discharge, a survival regression model was used. A control group of nonrecipient patients was sampled at a comparable point in treatment. Subjects in the recipient group were significantly more likely to have unplanned discharges than those in the comparison group. These preliminary data suggest that large cash infusions can be disruptive to the course of treatment for substance abusers.

Twaite JA; Lampert DT. **Outcomes of mandated preventive services programs for homeless and truant children: a follow-up study.** Social Work, 42(1):11-18, 1997.

This study examined factors predicting favorable outcomes for families participating in mandated preventative services (MPS) programs, which included a truancy diversion program and a program for adolescents from homeless families. Case records of 100 families referred out of the program between 1989 and 1994 were reviewed to ascertain social workers' ratings of five factors predicting successful outcomes. Criterion measures included compliance with the termination plan and ratings of the child's adjustment six months after MPS termination. Results indicated that the criterion measures were related significantly to four predictive factors: severity of the child's pathology, intensity of parental involvement in treatment, parental attendance, and parental understanding of the child's pathology.

Weis SE. **Universal directly observed therapy. A treatment strategy for tuberculosis**. Clin Chest Med, 18(1):155-163, March 1997.

Patient adherence to prescribed TB regimens must be assured to prevent relapse, acquired resistance, and transmission. Directly observed therapy (DOT), an outpatient management strategy designed to ensure adherence, is not widely used because it is perceived to be inordinately expensive. This article discusses universal (observed therapy for all patients), as opposed to selective (observed taking medications only if certain selection criteria are satisfied), DOT in the treatment of TB patients. Topics addressed include cost, efficacy, nonadherence, and implementation guidelines.

1996

Baier M; Murray R; North C; Lato M; Eskew C. **Comparison of completers and noncompleters in a transitional residential program for homeless mentally ill**. Issues Ment Health Nurs, 17:337-52, July-August 1996

Two groups of clients in a transitional residential program, designated as completers and noncompleters, were compared to evaluate program effectiveness. Clinical records of 228 former clients were examined

for demographics, needs on admission, participation in activities, length of stay, psychiatric diagnosis, and type of discharge. This program discharged 48% (110) of the residents according to the contract established on admission. Mean length of stay for program completers was 143 days; length of stay varied for noncompleters. Subjects who completed the program were more likely to obtain permanent housing than noncompleters. Participation in at least two activities while in residence was significantly related to program completion. Type of discharge or length of stay did not vary significantly by Axis 1 psychiatric diagnosis, including chemical dependence, or gender.

Greenberg WM; Moore-Duncan L; Herron R. **Patients' attitudes toward having been forcibly medicated**. Bulletin of the American Academy of Psychiatry Law 24(4): 513-524, 1996.

The authors explain that forced medication procedures are generally perceived to be clinically necessary options. Previous studies have explored forcibly medicated patients' attitudes concerning these procedures, but as patients were interviewed while still in the hospital, this may have affected their responses. The authors interviewed consecutively forcibly medicated patients after their discharge by a clinician not involved with their treatment. Of those who were successfully interviewed, 47% had received forced injections, the remainder had accepted oral medication under duress. Recollecting their experiences, 57% professed fear of side effects, 17% fear of addiction, 17% objected to others controlling them, 40% felt angry, 33% felt helpless, 23& fearful, 13% embarrassed, nut 23% were relieved. Sixty percent retrospectively agreed to having been coerced, 53% stating they were more likely to take medication in the future. Other forcibly medicated patients had poorer outcomes, such as rapid readmission or discharge to a state hospital.

Greenberg WM; Moore-Duncan L; Herron R. **Patients' attitudes toward having been forcibly medicated**. Bulletin of the American Academy of Psychiatry Law 24(4): 513-524, 1996.

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Klinkenberg WD; Calsyn RJ. **Predictors of receipt of aftercare and recidivism among persons with severe mental illness: a review.** Psychiatric Services, 47(5): 487-496, 1996.

This paper provides a comprehensive review of research predicting receipt of aftercare and recidivism (rehospitalization) among individuals who have serious mental illness. In general, variables related to system responsiveness were no more consistent predictors of recidivism than variables related to either client vulnerability or community support. Assertive community treatment and receipt of aftercare were also associated with lower rates of rehospitalization. Five main conclusions are drawn including: (1) system responsiveness variables are more consistent predictors of receipt of aftercare than client

vulnerability and community support variables; (2) client vulnerability variables as a group have not been consistent predictors of receipt of aftercare; (3) lack of medication compliance and previous psychiatric hospitalization are the only two client vulnerability variables that have consistently been shown to predict greater recidivism; (4) most, but not all, of the informal support variables have been found to be associated with reduced recidivism; and (5) case management is associated with less recidivism.

Owen RR; Fischer EP; Booth BM; Cuffel BJ. **Medication noncompliance and substance abuse among patients with schizophrenia.** Psychiatric Services 47(8): 853-858, 1996.

The study examined the effect of medication noncompliance and substance abuse on symptoms of schizophrenia. Short-term inpatients with a diagnosis of schizophrenia were enrolled in a longitudinal outcomes study and continued to receive standard care after discharge. At baseline and six-month follow-up, Brief Psychiatric Rating Scale scores and data on subjects' reported medication compliance, drug and alcohol abuse, usual living arrangements, and observed side effects were obtained from medical records. Relationships between the dependent variables -- medication noncompliance and follow-up BPRS scores -- and the independent variables were analyzed using logistic and linear regression models.

Pilote L; Tulsky JP; Zolopa AR; Hahn JA; Schecter GF; Moss AR. **Tuberculosis prophylaxis in the homeless. A trial to improve adherence to referral.** Arch Intern Med, 156(2):161-5, January 22, 1996.

BACKGROUND: Adherence to tuberculosis evaluation is poor in a high-risk population such as the homeless. OBJECTIVE: To test two interventions aimed at improving adherence to tuberculosis evaluation and to identify predictors of adherence. METHODS: Weconducted a randomized clinical trial in shelters and food lines in the inner city of San Francisco, Calif. We randomized 244 eligible subjects infected with tuberculosis to (1) peer health adviser (assistance by a peer [n=83]), (2) monetary incentive ($5 payment [n=82]), or (3) usual care (referral slips and bus tokens only [n=79]). The primary outcome of the study was adherence to a first follow-up appointment at the tuberculosis clinic, where subjects were evaluated for active tuberculosis and the need for isoniazid prophylaxis. RESULTS: Of the subjects assigned to a monetary incentive, 69 (84%) completed their first follow-up appointment, compared with 62 subjects (75%) assigned to a peer health adviser and 42 subjects (53%) assigned to usual care. Adherence was higher in the monetary incentive and peer health adviser groups than in the usual care group. Patients not using intravenous drugs and patients 50 years of age or older were more likely to adhere to a first follow-up appointment. Among the 173 tuberculosis-infected subjects who completed their appointment, isoniazid therapy was started for 72 individuals, and three cases of active tuberculosis were identified. CONCLUSION: A monetary incentive or a peer health adviser is effective in improving adherence to a first follow-up appointment in homeless individuals infected with tuberculosis. A monetary incentive appears to be superior. Intravenous drug users and young individuals are at high risk for poor adherence to referral.

1995

Clark RE; Drake RE; McHugo GJ; Ackerson TH. **Incentives for community treatment: mental illness management services.** Medical Care, 33(7):729-738, 1995.

The authors explain that serving people with mental and other chronic illnesses in community settings may improve compliance and satisfaction with treatment, but existing payment mechanisms often favor office-based treatment. This article describes a study examining the effect of a change in Medicaid payment on the location and amount of service provided by case managers. Amounts of service given by

treatment providers to 185 of their clients in community settings and in mental health centers were compared before and after reimbursement changed from an all-inclusive prospective rate to a mixed prospective/retrospective payment. Clients were enrolled in two different treatment programs: continuous treatment teams with extensive training in in vivo treatment, and a case management program that emphasized office-based treatment. Results show that mixed prospective and retrospective reimbursement can remove financial barriers to in-community treatment, but the mix works best in combination with a training program. The authors suggest further research to determine the precise financial impact of such changes.

Fawcett J. **Compliance: definitions and key issues.** J Clin Psychiatry, 56 Suppl 1:4-8, 1995.

Issues surrounding treatment compliance can be considered for a number of clinical situations. For clinicians, compliance usually means "the extent to which the patient takes the medications as prescribed." Instead of "compliance," it has been suggested that the term adherence be used, which puts more of a burden on the clinician to form a therapeutic alliance with the patient, which thereby increases behavioral compliance and possibly enhances the therapeutic effect of the medication administered. The trend toward placing more responsibility on the clinician to obtain compliance or adherence to the prescribed treatment has resulted in several strategies. These include explaining the illness and the rationale for the use of medication for its treatment, inquiring into the patient's hesitation and fears concerning medication, and using various educational approaches with the patient and the patient's significant other concerning possible side effects. Different clinical settings and situations also may modify the emphasis needed to maximize compliance. The situation of continuation and maintenance treatment may require a different treatment procedure for maximum success. The emphasis must vary quite a bit from the patient who improves and needs education to be convinced to continue maintenance treatment to the patient who has a treatment-resistant depression and needs close support and maintenance of hope to continue treatment that, up until the present, has not yielded positive results. Shifting the focus of compliance from the patient to the skill of the clinician refocuses the issue from a patient variable back to the art and science of good medicine.

1994

Centers for Disease Control and Prevention, Div. of Tuberculosis Elimination. **Improving patient adherence to tuberculosis treatment,** U.S. Dept. of Health and Human Services, CDC, 1994.

This booklet describes strategies and perspectives for improving adherence to TB treatment. These strategies are geared toward the concept of providing individualized services that are sensitive to the health, social, cultural, and economic n4eeds of persons with TB. The booklet covers the following topics: basic assumptions underlying the care of persons with TB; getting to know your patient; predicting and assessing adherence; strategies for improving adherence; problem solving; adherence by children and adolescents; and legal remedies for ensuring adherence. This information is intended for health care workers who provide TB. AVAILABLE FROM: CDC Voice Information System (404) 639-1819. CDC Fax Information System (404) 332-4565.

Draine J; Solomon P. **Explaining attitudes toward medication compliance among a seriously mentally ill population.** The Journal of Nervous and Mental Disease 182(1):50-54, 1994.

This article explores how social relations, activities and networks affect attitudes toward medication compliance. Data were collected as part of a randomized clinical study of the efficacy of services provided by a team of case managers composed primarily of mental health service consumers. The results indicate that building social relations and increasing social activity as a strategy to expand a client's social network contributes to improved attitudes toward medication compliance.

Francell, EG. **Medication: The foundation of recovery.** Innovations and Research 3(4):31-40, 1994.

For many consumers, proper medication management can provide the necessary foundation for recovery from mental illness. This article discusses issues surrounding medication management including: compliance; coercion; rehabilitation opportunities; education and support; and medication effectiveness. The authors suggest that a collaborative approach to medication management involving both the consumer and the mental health professional maximizes medication effectiveness and compliance.

Sachs-Ericsson; Ciarlo JA; Tweed D; Dilts S; Casper E. **Brief report: the Colorado homeless mentally ill. Users and nonusers of services: an empirical investigation of 'difficult to treat' characteristics.** Journal of Community Psychology, 22(4):339-345, 1994.

This study examined the mental health problems of a selected case sample of homeless men and women who have mental illnesses in Colorado. The sample was selected to compare homeless people who have mental illnesses and use mental health services (n=46) with those who do not (n=50). Findings show that although the homeless people with mental illnesses are slightly more dysfunctional than the non-users, the rates of serious disorders are high among both groups. Current users of mental health services, particularly voluntary users, were found to have fewer "difficult to treat" characteristics than the nonusers.

Warner L.A; Silk K; Yeaton WH; Bargal D; Janssen J; Hill EM. **Psychiatrists' and patients' views on drug information sources and medication compliance.** Hosp Comm Psychiatry 45(12):1235-1237, 1994.

This study compared the specific sources of information about medication that persons with mood disorders report they use with the sources psychiatrists believe their patients use. The study also assessed whether psychiatrists and patients had the same perception about the frequency that patients ask psychiatrists about medications. Because knowledge of medications is likely to affect adherence to treatment protocols, beliefs about compliance factors were also examined. Data was gathered from a larger exploration that focused on the effects of self-help groups on the course of affective illness.

1993

Carthew D; Styres K. **The effect of homelessness on compliance with medical regimens** [letter]. Nurse Pract, 18:8, 11, December 1993.

Dixon L; Friedman N; Lehman A. **Compliance of homeless mentally ill persons with assertive community treatment.** Hospital and Community Psychiatry 44(6):581-583, 1993.

This paper reports preliminary data on the first 26 patients to complete three months of treatment in a prospective study to assess compliance patterns of a sample of homeless people with mental illnesses. Specifically, the study evaluated compliance patterns of homeless patients receiving psychiatric care and case management services from an assertive community treatment (ACT) team in Baltimore, Maryland. Although these data are preliminary, they show that homeless patients with mental illnesses who were offered an assertive community outreach approach with comprehensive services were largely able to adhere to treatment recommendations in most domains except for daily structure. Patients were least compliant in the domain of daily structure, suggesting the importance of low-demand housing and drop-in centers for these individuals.

Pilote L; Peterson J; Zolopa A; Moss A. **Improving adherence to TB and HIV screening in the homeless**. Int Conf AIDS, 9:510 (abstract no. PO-B32-2247), June 6-11, 1993.

Early intervention for persons infected with the human immunodeficiency virus (HIV) and for those infected with the tuberculosis (TB) bacteria has clear benefit. Adherence to treatment regimens in both these infections is a major problem, especially in populations such as the homeless. To test two interventions aimed at improving compliance with TB screening and prophylaxis and accessing HIV-related care in the homeless, we conducted a randomized clinical trial of inner city homeless adults who were newly diagnosed HIV or purified protein derivative (PPD) positive. The outcome measured was completing a comprehensive evaluation at the TB or HIV clinic at the public hospital. Subjects were randomized to either: (1) Peer Health Advisor (PHA) - assigned to a formerly homeless person who assisted them in getting to clinic; (2) money incentive - paid to go to clinic; or (3) usual care - given appointments and bus tickets to go to clinic. Ninety- one subjects were enrolled, 29 to PHA, 31 to the money incentive and 31 to usual care. The median age was 38 years, 87% were men and 56% were African-American. Nine were HIV positive, 81 PPD positive and one positive for both. Clinic evaluations were completed by 76% of the PHA subjects, 81% of paid subjects and 52% of those in usual care. Both interventions significantly improved adherence when compared to usual care. Such improvement in accessing care suggests that even difficult high risk populations such as the homeless can be reached with interventions that address their particular access problems and needs.

Sumartojo E. **When tuberculosis treatment fails. A social behavioral account of patient adherence**. Am Rev Respir Dis, 147(5):1311-1320, May 1993.

Several conclusions about measuring adherence can be drawn. Probably the best approach is to use multiple measures, including some combination of urine assays, pill counts, and detailed patient interviews. Careful monitoring of patient behavior early in the regimen will help predict whether adherence is likely to be a problem. Microelectronic devices in pill boxes or bottle caps have been used for measuring adherence among patients with tuberculosis, but their effectiveness has not been established. The use of these devices may be particularly troublesome for some groups such as the elderly, or precluded for those whose life styles might interfere with their use such as the homeless or migrant farm workers. Carefully designed patient interviews should be tested to determine whether they can be used to predict adherence. Probably the best predictor of adherence is the patient's previous history of adherence. However, adherence is not a personality trait, but a task-specific behavior. For example, someone who misses many doses of antituberculosis medication may successfully use prescribed eye drops or follow dietary recommendations. Providers need to monitor adherence to antituberculosis medications early in treatment in order to anticipate future problems and to ask patients about specific

adherence tasks. Ongoing monitoring is essential for patients taking medicine for active tuberculosis. These patients typically feel well after a few weeks and either may believe that the drugs are no longer necessary or may forget to take medication because there are no longer physical cues of illness. Demographic factors, though easy to measure, do not predict adherence well. Tending to be surrogates for other causal factors, they are not amenable to interventions for behavior change. Placing emphasis on demographic characteristics may lead to discriminatory practices. Patients with social support networks have been more adherent in some studies, and patients who believe in the seriousness of their problems with tuberculosis are more likely to be adherent. Additional research on adherence predictors is needed, but it should reflect the complexity of the problem. This research requires a theory-based approach, which has been essentially missing from studies on adherence and tuberculosis. Research also needs to target predictors for specific groups of patients. There is clear evidence of the effect on adherence of culturally influenced beliefs and attitudes about tuberculosis and its treatment. Cultural factors are associated with misinformation about the medical aspects of the disease and the stigmatization of persons with tuberculosis. Culturally sensitive, targeted information is needed, and some has been developed by local tuberculosis programs.

1992

Levy RH. **Psychopharmacological interventions.** In Katz SE; Nardacci D; Sabatini A (eds.), *Intensive Treatment of the Homeless Mentally Ill.* Washington, DC: American Psychiatric Press, 1992.

This chapter includes a description of the major antipsychotic medications. The authors discuss dosage, trial length, maintenance of medication, and side effects. Methods for enhancing patient compliance and dealing with treatment resistant symptoms are presented, drawing on the experiences of the authors in working with the homeless mentally ill at Bellevue Homeless Psychiatric Unit in New York.

Smoot SL; Vandiver R; Fields RA. **Homeless persons readmitted to an urban state hospital.** Hospital and Community Psychiatry 43(10):1028-1030, 1992.

This study investigated the immediate residential histories of homeless recidivists admitted to Georgia Regional Hospital in Atlanta during a two-month period in 1989. By comparing this group with recidivists who kept their housing placements, the authors hoped to identify the variables associated with homelessness after discharge into the metropolitan Atlanta area. The main variables of interest in the study were the transition into homelessness, demographic characteristics, and self-reported compliance with aftercare plans. Compared with the group with housing, significantly more homeless consumers were African Americans and had a diagnosis of schizophrenia. Homeless consumers had significantly less mean monthly income than those with housing. There was a definite mismatch between the desired housing options and the actual housing placements of the homeless group. Neither group complied very well with aftercare plans.

1991

Arana JD; Hastings B; Herron E. **Continuous care teams in intensive outpatient treatment of chronic mentally ill patients.** Hospital and Community Psychiatry 42(5): 503-507, 1991.

The authors describe a continuous care team providing ongoing treatment for patients with mental illnesses at a community mental health center in an inner-city area. The team, consisting of a nurse-social worker, a psychiatrist, four clinicians, and an addictions counselor, uses aggressive outreach and remains in charge of treatment while the patient is hospitalized. Preliminary outcomes for 32 of 39 patients treated during the first 15 months of the program included increased rates of treatment compliance, decreased frequency of crises, and decreased frequency and duration of hospitalization. However, substance abuse continued to be a problem and was negatively correlated with improvement.

Hiday VA; Scheid-Cook TL. **Outpatient commitment for "revolving door"patients: compliance and treatment.** The Journal of Nervous and Mental Disease 179(2): 83-88, 1991.

This article describes the use and effectiveness of outpatient commitment in inducing compliance with treatment among persons with serious mental illness who are treatment noncompliant, and those who recurrently become dangerous and revolve through civil commitment courts as well as state mental hospitals. Patient characteristics, treatment modalities, and mental health center actions to ensure compliance are described. Comparison of those patients ordered to outpatient commitment with those having other court dispositions (involuntary hospitalization and release) indicates that outpatient commitment induces compliance and leads to treatment maintenance even after court orders terminate.

Rosenfield S. **Homelessness and rehospitalization: the importance of housing for the chronic mentally ill.** Journal of Community Psychology 19(1):60-69, 1991.

In this study, the relative importance of housing services versus psychiatric factors as determinants of rehospitalization, emergency room use, and aftercare compliance is examined. The analysis investigates the relative importance of housing within a community that has high rates of homelessness versus a comparison community with low homelessness rates. Results indicate that when patients need both housing and psychiatric care, services for housing make the critical difference for community tenure.

Schlossstein E; St. Clair P; Connell F. **Referral keeping in homeless women.** J Community Health, 16:279-85, December 1991.

We examined factors associated with referral keeping among 118 homeless women screened for health care needs in Seattle. Referral keeping for medical conditions among the homeless was comparable to rates found in general low-income populations (62% vs. 65%), but their proportion of kept referrals for preventive care was much lower (22% vs. 44-51%). Referral keeping varied directly with symptom severity. Consistent with this finding was that among interviewed subjects who did not keep the index referral, 37% kept other referrals for more severe problems or if the condition worsened. Personal stresses and competing priorities, weighted against perceived medical urgency, were the major factors influencing referral keeping. Screener encouragement and communication of medical urgency were indicated by one-third of the subjects who kept referrals as providing important motivation for treatment.

1990

Piantieri O; Vicic W; Byrd R; Brammer S; Michael M. **Hypertension screening and treatment in the homeless.** In Brickner PW; Scharer LK; Conanan BA; Savarese M; Scanlan BC (eds.), *Under the Safety Net: The Health and Social Welfare of the Homeless in the United States*. New York, NY: W.W. Norton & Company, 1990.

Control of hypertension is usually accomplished through lifestyle changes and medication. Treating hypertension in the homeless requires awareness of the obstacles they face which prevent compliance, including lost medications, difficulty with diuretics, and complications with alcohol use. This chapter discusses screening and treatment issues and use of transdermal skin patches to deliver medications.

1989

Nyamathi A; Shuler P. **Factors affecting prescribed medication compliance of the urban homeless adult.** Nurse Pract, 14:47-8, 51-2, 54, August 1989.

Compliance with medical treatment may constitute an impenetrable barrier to homeless persons experiencing significant physiological and psychosocial limitations. This study describes the perceived factors that enhance or diminish prescribed medication compliance of homeless adults. A retrospective descriptive study of 61 urban homeless adults sheltered at the Union Rescue Mission in downtown Los Angeles were interviewed. Findings revealed that more than two-thirds of the sample reported their health status to be fair to poor. Nearly one-third reported compliance rates ranging from none of the time to half of the time. Deterrents to compliance included structural variables such as availability of drugs and lack of privacy and storage space. Factors enhancing compliance included carrying the medications, being close to the health clinic and understanding the need for the medication. Many of the factors reported to enhance or diminish compliance are within the realm of professional practice.

1986

Slutkin G. **Management of tuberculosis in urban homeless indigents**. Public Health Rep, 101:481-5, Sept.-Oct. 1986.

TB patients who are homeless, indigent, and alcoholic infrequently complete a course of chemotherapy, risking treatment failure, recurrence, and continued spread of infection in the community. Obstacles to successful treatment include erratic schedules, mistrust, and uncooperative behavior. Successful management requires proven case holding techniques, a correct drug regimen, and prompt/appropriate response to the patient who is lost or refuses treatment. Nine- and six-month drug regimens with proven success are available, but direct observation of medication-taking should be maximized. Patient default may be further minimized by encouraging prompt notification of the health department. Occasionally, the threat or use of public health laws on confinement are required for noncompliant patients.